SSOAR

Open Access Repository
www.ssoar.info

Pre-testing questionnaires: the New Zealand experience

Grealish, Denise

Veröffentlichungsversion / Published Version
Konferenzbeitrag / conference paper

Zur Verfügung gestellt in Kooperation mit / provided in cooperation with:
GESIS - Leibniz-Institut für Sozialwissenschaften

Empfohlene Zitierung / Suggested Citation:
Grealish, D. (2004). Pre-testing questionnaires: the New Zealand experience. In P. Prüfer, M. Rexroth, & F. J. J. Fowler (Eds.), *QUEST 2003: proceedings of the 4th Conference on Questionnaire Evaluation Standards, 21-23 October 2003* (pp. 37-42). Mannheim: Zentrum für Umfragen, Methoden und Analysen -ZUMA-. https://nbn-resolving.org/urn:nbn:de:0168-ssoar-49192-3

Nutzungsbedingungen:
Dieser Text wird unter einer Deposit-Lizenz (Keine Weiterverbreitung - keine Bearbeitung) zur Verfügung gestellt. Gewährt wird ein nicht exklusives, nicht übertragbares, persönliches und beschränktes Recht auf Nutzung dieses Dokuments. Dieses Dokument ist ausschließlich für den persönlichen, nicht-kommerziellen Gebrauch bestimmt. Auf sämtlichen Kopien dieses Dokuments müssen alle Urheberrechtshinweise und sonstigen Hinweise auf gesetzlichen Schutz beibehalten werden. Sie dürfen dieses Dokument nicht in irgendeiner Weise abändern, noch dürfen Sie dieses Dokument für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, aufführen, vertreiben oder anderweitig nutzen.
Mit der Verwendung dieses Dokuments erkennen Sie die Nutzungsbedingungen an.

Terms of use:
This document is made available under Deposit Licence (No Redistribution - no modifications). We grant a non-exclusive, non-transferable, individual and limited right to using this document. This document is solely intended for your personal, non-commercial use. All of the copies of this documents must retain all copyright information and other information regarding legal protection. You are not allowed to alter this document in any way, to copy it for public or commercial purposes, to exhibit the document in public, to perform, distribute or otherwise use the document in public.
By using this particular document, you accept the above-stated conditions of use.

gesis Leibniz-Institut für Sozialwissenschaften

Mitglied der Leibniz-Gemeinschaft

PRE-TESTING QUESTIONNAIRES: THE NEW ZEALAND EXPERIENCE

DENISE GREALISH

1. Introduction

This paper provides an overview of the process Statistics New Zealand (SNZ) uses to develop household, business and economic survey questionnaires. It describes the different pre-testing methods used to evaluate the questions and questionnaires, and how these methods work together and complement each other.

2. Questionnaire development process

Questionnaire development at SNZ starts with topic specifications supplied by clients. These clients can be internal to SNZ or external, from another government agency. Questionnaire developers need to be able to understand the objectives and data collection needs of a survey in order to develop questions that collect the exact information required. The topic specifications are referred to throughout the development of a questionnaire to ensure it is meeting the survey objectives. Topic specifications can be used to prioritise work, and for questionnaire review by clients and experts.

During the questionnaire development process, topic specifications are revisited when pre-testing shows up an issue with the concepts. For example, it may be necessary modify a specification, or delete one, if a robust question cannot be produced to the required standard.

When the questionnaire developers receive topic specifications questions are formed which are reviewed and tested. At SNZ, the layout of paper questionnaires is done within the questionnaire development section. This is a great advantage, as it allows for the quick implementation and retesting of recommendations that resulted from earlier pre-testing. For electronic questionnaires, flowcharts are the current method used at SNZ to specify requirements for programmers. The flowcharts detail question wording, structure, routing and edits.

A well-designed survey questionnaire should efficiently collect the data that best meets user needs, with a minimum number of errors, and the least possible burden on respondents.

Pre-testing is used at SNZ to ensure that questionnaires are easy to administer, easy to process, respondent and interviewer–friendly, meet the survey objectives, and meet SNZ's quality standards.

A variety of pre-testing methods are used, depending on the individual questionnaire being developed. The number of rounds of each type of testing, and the order of the pretesting methods used is driven by the individual questionnaire being developed, and by the time and resources available.

3. Pre-testing methods

3.1 Concept testing

During the early stages of questionnaire development, and on occasion in conjunction with the development of the topic specification by the clients, SNZ uses concept testing to help refine survey objectives. The purpose of concept testing is to ensure that a specific concept or topic required by the client is something that the survey population is able to understand and can report on. Concept testing can also be used to help define concepts that are still vague in the client's mind.

Concept testing usually takes the form of a focus group for household surveys, but in business survey development it is more likely to involve individual interviews with typical business enterprise respondents. Information gained during this early pre-testing is used to make recommendations about survey objectives so that there will be a better match between the information the survey aims to collect and the information that respondents can supply.

3.2 Expert reviews

A series of expert reviews of the questions and questionnaire takes place throughout the development. An expert draws on their previous experience, current theory and design research literature to provide a critique of the questions. The expert review provides a fresh set of eyes to critically look at the questions as the developer often gets too close to the subject matter to be able to see all the problems. As no field costs are involved, expert reviews are a relatively cheap pre-testing method. However the recommendations from the expert are based on theory rather than practice or observation.

A range of experts are used during SNZ questionnaire development. These may include:

- questionnaire developers who peer review the questions to ensure they meet SNZ's question quality and layout standards
- clients who ensure objectives are being met
- classification staff to ensure standard classifications are being used
- programmers to ensure best practise is being used
- staff from specialist areas within SNZ, for example to ensure the questionnaire meet coding and imputation requirements.

If a survey development relates to a subject matter area where SNZ has had no previous experience, an overseas expert who is familiar with that area may conduct the review.

3.3 Cognitive testing

Cognitive testing is used to discover problems experienced by the respondent and the interviewer with the 'process' of answering the questions. It helps identify problems with question comprehension, memory recall, selecting response options, interpretation of reference periods, reactions to sensitive questions, and question and response order effects.

A cognitive test is a one-on-one interview which allows the questionnaire designer to understand the process a respondent goes through to answer a question, in particular trying to detect any actions or understandings that were not intended by the designer. It can also detect usability issues with the questionnaire, such as incorrect routing or insufficient answer spaces.

Cognitive testing uses a combination of several techniques:

- observation of the respondent to see how they navigate through a questionnaire, where they have difficulties, get confused, or fail to notice instructions
- asking the respondent to 'think aloud' and verbalise their thoughts as they try to answer a question. This lets the questionnaire designer know how difficult the question was for the respondent, and if it was understood the way the designer intended
- concurrent probing (at the time the respondent answers the question) to get a better understanding of the response process
- paraphrasing (getting a respondent to repeat back a question in their own words) to check a respondent's understanding of a question
- retrospective probing, which can provide information about a group of questions or the questionnaire as a whole. This can help with information about the flow of a questionnaire, context effect or mode effects.

Recommendations from cognitive tests feed into the reviewing and rewriting of questions. The revised questions are then tested again. This process is iterative and can be repeated until the designer is satisfied with the question or for as long as time and resource constraints allow.

As a pre-testing method, cognitive testing is extremely valuable as it provides a rich source of information about the respondents' thought processes and how well questions work. It also allows a number of versions of a question to be tested in a short space of time. One of the drawbacks is that results from cognitive tests tend to focus on comprehension issues, so other types of problems may be missed, and the results can not always be generalised.

3.4 Usability testing

Usability testing is commonly used for electronic or web surveys but it can also be applied to paper surveys. Usability testing follows a similar methodology to cognitive testing but instead of looking for question comprehension issues, the test focuses on how the respondent or interviewer uses the questionnaire. That is, can they easily find their way around the questionnaire, do they read the instructions, how they enter responses, etc.

SNZ recently studied eye movement for a paper-based survey. Eye movement is tracked while a questionnaire is being completed. This allows the questionnaire designer to see which elements on the questionnaire respondents are attending to and which elements are being missed.

Business surveys also use a form of usability testing. As most of the concepts in business surveys are predefined internationally, the testing focuses on fitting the concepts into the New Zealand environment, that is, finding out how businesses store the required data and tailoring questions to fit.

3.5 Translation testing

The Longitudinal Immigration Survey – New Zealand was developed in English, the predominant language used in New Zealand, but was required to be translated into a number of Pacific Island and Asian languages. The purpose of the survey was to investigate the settlement experiences of migrants, and because those migrants with no English language skills would have a different settlement experience to those who did, it was important to interview them.

As resources are not available at SNZ to translate questionnaires, the translation for the field test was contracted out. The field test showed the translation was too formal and

non-conversational so not very usable in an interview setting. To improve the usability of the translation and the quality of the data captured, some usability testing was run with the translations.

A number of bilingual field interviewers were trained as cognitive testers, provided with the translated questionnaire, then required to run some tests. They made recommendations to the translators about the questionnaire to try and improve the usability of the translation. As the content of the survey had already been agreed on, the recommendations the field interviewers could make were limited to wording changes only. These had to be within the guidelines of ensuring the language was usable in a interview situation, the question translations were usable in context with each other, and the equivalent information to the English questions was collected.

This method of usability testing with the translation proved to be very successful in improving the usability of the translation, as well as being very time and cost effective.

3.6 Field testing

Field tests (pilot tests) are the most costly of all the pre-testing methods used to evaluate questionnaires during development. SNZ's questionnaire design standards state that a questionnaire must go through a field test before it can be signed off as being fully tested. This recognises the importance of evaluating the questionnaire in a field environment as well as in a test situation.

The main focus of a field test is to get the field interviewers' reaction to the questionnaire and how it works, as well as getting them to gauge the respondents' reaction to the questionnaire. Field interviewers fill out an evaluation form after their field test training and during the field work. It is important that interviewers write down the issues as soon as possible after they occur. Once the fieldwork is completed, interviewers are brought together as a group and debriefed by the questionnaire developers.

Questionnaire designers review the raw data from field tests and also look at the actual field test questionnaires. This is to find common mistakes that interviewers are making, non-standard answers or notes made by interviewers, and to see how answer and non-response categories are used.

As a way to increase the value of field tests for questionnaire development, SNZ also uses interview behaviour coding. This is when an interview is recorded and a questionnaire developer later codes the behaviour of the respondents and interviewers at each question, for example if the respondent asks for clarification before answering the question. While not always discovering new problems with questionnaires, SNZ has used behaviour

coding as a way to quantify problems that may already be known, which helps in the decision about which areas to focus rework resources on.

4. Summary

Pre-testing will always be a key part of questionnaire development. A variety of methods are used which work together and compliment each other. These methods are continuing to evolve and change as research into their validity and practice continues.

Contact

Denise Grealish
Statistics New Zealand
Questionnaire Design Consultancy
PO Box 2922
Wellington
New Zealand
email: denise.grealish@stats.govt.nz